

REMARKS

Claim Amendments

Applicants currently amend claims 7 and 9-11 in the present application. By amending claims 7 and 9-11, Applicants are not conceding that the amended claims were not patentable as previously recited. Applicants amend claims 7 and 9-11 to further clarify that the system recited in each claim is a system comprising a computer processor coupled to computer memory. Support for these amendments may be found in the original specification at least at page 7, lines 5-19. Applicants submit that the amendments do not introduce any new matter into the patent application.

Claim Rejections – 35 U.S.C. § 101

Claims 7, 9-11, 13, and 15-17 stand rejected under 35 U.S.C. § 101 as being directed to non-statutory subject matter. The Office Action at pages 2-3 states:

To be statutory, a claimed computer-related process must either: (A) result in physical transformation outside the computer for which a practical application is either disclosed in the specification or would have been known to a skilled artisan, or (B) be limited to a practical application with useful, concrete and tangible result.

The claimed subject matter is rejected under 35 U.S.C. § 101 for being “software per se.”

The claimed invention of claims 7 and 9-11 are addressed to “a system for populating a database” that can be interpreted as referring to lines of programming within the system, rather than referring to a physical object. The claimed invention of claims 13 and 15-17 are addressed to “a computer program product” comprising “a recording medium” that are not hardware but a program or a software on a medium such as a compact disc. Accordingly, the claim becomes nothing more than a set of software instructions which are “software per se.”

“Software per se” is non-statutory under 35 USC 101 because it is merely a set instructions without any defined tangible output or tangible result being produced. The requirement for tangible result under 35 USC 101 is defined in *State Street Bank & Trust Co. v. Signature Financial Group Inc.*, 149 F.3d 1368, 47 USPQ2d 1596 (Fed. Cir. 1998).

That is, the Office Action apparently takes the position that claims 7, 9-11, 13, and 15-17 constitute software per se, and claims 7, 9-11, 13, and 15-17 also fail to produce a useful,

concrete, and tangible result. Applicants respectfully note in response, however, that as will be shown below, the claims in the present application are not software per se, and the claims in the present application also produce a useful, concrete, and tangible result. As such, the rejections under 35 U.S.C. § 101 should be withdrawn and the claims should be allowed.

Claims 7, 9-11, 13, And 15-17 Constitute Software Per Se

Claims 7, 9-11, 13, and 15-17 stand rejected under 35 U.S.C. § 101 as being directed to software per se. Applicant's respectfully note in response, however, that claims 7, 9-11, 13, and 15-17 are statutory within the meaning of 35 U.S.C. § 101.

Applicants respectfully note that, as amended, claims 7 and 9-11 recite a system comprising a computer processor and computer memory operatively coupled to the computer processor. That is, claims 7 and 9-11 refer to a system including computer hardware. Applicants note further in response that the 'system' recited in claim 7 and its dependent claims was always intended to refer to a computer system. Applicants clarify this further with the present amendments, including expressly reciting in claim 7 a computer processor and computer memory. In addition, claims 7 and 9-11 are presently amended to remove the phrase "means for." Applicants respectfully submit that these amendments add no new matter to the present application and clarify that neither claim 7 nor its dependent claims recite software per se. The rejection of claims 7 and 9-11 under 35 U.S.C. § 101 should therefore be withdrawn. Applicants respectfully request reconsideration of claims 7 and 9-11.

Applicants further note in response that claims 13 and 15-17 are directed to computer program products – articles of manufacture within the meaning of 35 U.S.C. § 101. A computer program product is an article of manufacture within the meaning of *In re Beauregard* where the Commissioner of Patents and Trademarks stated "that computer programs embodied in a tangible medium, such as floppy diskettes, are patentable subject matter under 35 U.S.C. 101...." *In re Beauregard*, 53 F.3d 1583 (Fed. Cir. 1995). Moreover, the patent literature is filled with many, many allowed and issued claims for

such computer program products—all of which are well within the scope of 35 U.S.C. § 101. It is therefore improper to reject claims 13 and 15-17 on the basis that these claims are directed to a computer program product containing a set of program instructions because the computer program product recited in the present application is embodied in a tangible medium and is therefore patentable within the meaning of *In re Beauregard*. The rejections of claims 7, 9-11, 13, and 15-17 under 35 U.S.C. § 101 should therefore be withdrawn. Applicants respectfully request reconsideration of claim 7, 9-11, 13, and 15-17.

**Claims 7, 9-11, 13, And 15-17 Fail To Produce
A Useful, Concrete, Tangible Result**

Claims 7, 9-11, 13, and 15-17 stand rejected under 35 U.S.C. § 101 for failing to produce a useful, concrete, and tangible result. A claimed invention constitutes patentable subject matter under 35 U.S.C. § 101 if the claimed invention as a whole produces a “useful, concrete and tangible result.” *State Street Bank & Trust Co. v. Signature Financial Group Inc.*, 149 F. 3d 1368, 1373, 47 USPQ2d 1596, 1601-02 (Fed. Cir. 1998). Claims 7, 9-11, 13, and 15-17 populate a database. As will be shown below in more detail, populating a database as recited in claims 7, 9-11, 13, and 15-17 satisfies all three parts of the test for patentable subject matter because this result is “useful, concrete and tangible” under 35 U.S.C. § 101. Claims 7, 9-11, 13, and 15-17 are therefore patentable and the rejections of claims 7, 9-11, 13, and 15-17 under 35 U.S.C. § 101 should be withdrawn.

To be useful, a result must be specific, substantial and credible. M.P.E.P. § 2106(IV)(C)(2)(2)(a) and *In re Fisher*, 421 F.3d 1365, 76 USPQ2d 1225 (Fed. Cir. 2005). A person having ordinary skill in the art will immediately realize that the result of populating a database by use of the systems and computer program products claimed in the present application is specific, substantial, and credible. The claimed systems and computer program produces a result that is specific, substantial and credible because the claimed systems and computer program products infer dependencies among a fact table and related dimension tables from the schema of a database and subsequently *insert rows of data into the fact table and rows of data into the dimension tables* in accordance with

the dependencies. Populating a database according to the systems and computer program products recited in claims 7, 9-11, 13, and 15-17 produces results that are specific, substantial, and credible. Therefore, executing a workflow is useful within the meaning of 35 U.S.C., § 101.

To be concrete the process must have a result that can be substantially repeatable. M.P.E.P. § 2106 (IV)(C)(2)(2)(c). A person of ordinary skill in the art will immediately recognize that the systems and computer program products of claim 7, 9-11, 13, and 15-17 recites steps that produce a substantially repeatable result. In the systems and computer program products of claims 7, 9-11, 13, and 15-17, when the same database schema, fact table, dimension tables, and dependencies among the fact table and related dimension tables are used, the same rows of data will be inserted into the fact table and the dimension tables. Because the same rows of data will be inserted into the fact table and the dimension tables, the same result will be produced. As such, the systems and computer program products of claims 7, 9-11, 13, and 15-17 are repeatable and the result of populating a database is therefore concrete.

To be tangible a result must not be abstract. See M.P.E.P. § 2106(IV)(C)(2)(2)(b). A person of ordinary skill in the art will immediately recognize that the result of the systems and computer program products of claims 7, 9-11, 13, and 15-17 is populating a database. Populating a database is tangible because new rows of data are inserted into multiple tables. As such, the result of populating a database is therefore tangible.

Because the result of workflow decision management as claimed in the present application is useful, concrete, and tangible, claims 7, 9-11, 13, and 15-17 are patentable under 35 U.S.C. § 101. Applicants respectfully request reconsideration of claims 7, 9-11, 13, and 15-17.

Claim Rejections – 35 U.S.C. § 103 Over Weissman And Veronese

The Office Action rejects claims 1, 3-5, 7, 9-11, 13, and 15-17 for obviousness under 35 U.S.C. § 103 as being unpatentable over a combination of Weissman, *et al.* (U.S. Patent No. 6,212,524) (hereafter, 'Weissman') in view of Veronese (U.S. Patent Publication No. 2004/0210445) (hereafter, 'Veronese'). The question of whether Applicants' claims are obvious or not is examined in light of: (1) the scope and content of the prior art; (2) the differences between the claimed invention and the prior art; (3) the level of ordinary skill in the art; and (4) any relevant secondary considerations, including commercial success, long felt but unsolved needs, and failure of others. *KSR Int'l Co. v. Teleflex Inc.*, No. 04-1350, slip op. at 2 (U.S. April 30, 2007). Although Applicants recognize that such an inquiry is an expansive and flexible one, the Office Action must nevertheless demonstrate a prima facie case of obviousness to reject Applicants' claims for obviousness under 35 U.S.C. § 103(a). *In re Khan*, 441 F.3d 977, 985-86 (Fed. Cir. 2006). To establish a prima facie case of obviousness, the proposed combination of Weissman and Veronese must teach or suggest all of Applicants' claim limitations. *Manual of Patent Examining Procedure* § 2142 (citing *In re Royka*, 490 F.2d 981, 985, 180 USPQ 580, 583 (CCPA 1974)). Independent claim 1 of the present application recites:

1. A method for populating a database, the method comprising:
 - providing a database having a schema, wherein the schema defines tables in a database as well as fields in each table, relationships between fields and tables, and dependencies among tables;
 - inferring from the schema dependencies among a fact table and related dimension tables, wherein a dependency comprises a rule for the database, enforced by a database management system, that a first record in a first table must exist in the database before a second record in a second table may be inserted in the database, further comprising:

selecting from metadata describing a schema for the database expressions of dependencies; and

inserting the expressions of dependencies into a dependency list; and

inserting, in accordance with the dependencies, rows of data into the fact table and rows of data into the dimension tables.

As discussed in more detail below, the cited combination of references does not teach or suggest each and every element and limitation of Applicants' claims. The cited combination of references therefore cannot be used to establish a prima facie case of obviousness against the claims of the present application.

**Weissman Does Not Teach Or Suggest Inferring
From The Schema Dependencies Among A Fact
Table And Related Dimension Tables**

The Office Action takes the position that Weissman at column 3, lines 1-2 and lines 36-38, column 5, lines 26-32, column 6, lines 1-46, column 7, lines 42-49, and column 10, lines 24-42 discloses the following limitation of claim 1 in the present application: inferring from the schema dependencies among a fact table and related dimension tables, wherein a dependency comprises a rule for the database, enforced by a database management system, that a first record in a first table must exist in the database before a second record in a second table may be inserted in the database. In particular, the Office Action at page 4 takes the position that "according to the schema definitions a dimension table links to the fact table which is the central table of the schema, so a fact table must exist before a dimension table is generated."

Applicants respectfully note in response, however, that whether or not a "fact table must exist before a dimension table is generated" is not relevant for the purpose of determining

whether or not the prior art teaches the claimed invention. The claims of the present application recite that “a dependency comprises a rule for the database, enforced by a database management system, that a *first record* in a first table must exist in the database before a *second record* in a second table may be inserted in the database.” That is, the claims in the present application recite that a dependency dictates the order in which *records* are inserted into a table – not the order in which *tables* are created. Therefore, even if Weissman does teach that a “fact table must exist before a dimension table is generated,” this teaching does nothing to establish that Weissman teaches or suggests a dependency that comprises a rule for the database that a *first record* in a first table must exist in the database before a *second record* in a second table may be inserted in the database as claimed in the present application.

Applicants further note in response, that the reference points cited in the Office Action also fail to teach or suggest the limitation against which they are cited. Weissman at column 3, lines 1-2, teaches that a schema defines the relationships between the tables and columns, and Weissman at column 3, lines 36-38, teaches that a schema can be a star schema having one or more fact tables and one or more dimension tables. In addition, Weissman at column 5, lines 26-32, teaches that a datamart can be created from a schema, and Weissman at column 6, lines 1-46, provides definitions for terms used in Weissman’s disclosure. Weissman at column 7, lines 42-49, further teaches that from the schema definition automatic data extraction from source systems can be performed. Furthermore, Weissman at column 10, lines 24-42, teaches defining a schema in metadata, including determining the business processes of the organization for which the system is being built. The cited reference points, however, do not teach or suggest dependency that comprises a rule for the database that a *first record* in a first table must exist in the database before a *second record* in a second table may be inserted in the database as claimed in the present application. That is, Weissman at the reference points cited above and throughout the remainder of Weissman’s disclosure discloses a datamart that is organized according to a schema which defines the relationships between the tables and columns. Weissman’s datamart that is organized according to a schema which defines the relationships between the tables and columns does not teach or suggest

providing a database having a schema, wherein the schema defines tables in a database as well as fields in each table, relationships between fields and tables, and dependencies among tables as claimed here because Weissman's schema does not define dependencies among tables. A dependency comprises a rule for the database, enforced by a database management system, that a *first record* in a first table must exist in the database before a *second record* in a second table may be inserted in the database. Weissman, at the reference points cited above and all other points in Weissman, does not teach or suggest any rule for the database that a first record in a fact table must exist in the database before a second record in related dimension table may be inserted in the database is defined by Weissman's schema. That is, Weissman does not teach or suggest a schema that defines dependencies among tables. In fact, the term "dependency" does not appear in Weissman – not even once. The mere existence of a schema in Weissman is not enough to teach or suggest a schema that defines dependencies among tables.

Because Weissman does not teach or suggest inferring from the schema dependencies among a fact table and related dimension tables, wherein a dependency comprises a rule for the database, enforced by a database management system, that a first record in a first table must exist in the database before a second record in a second table may be inserted in the database, as claimed in the present application, the cited combination of references does not teach or suggest each and every element and limitation of Applicants' claims.

As shown above, Weissman does not teach or suggest inferring from the schema dependencies among a fact table and related dimension tables, wherein a dependency comprises a rule for the database, enforced by a database management system, that a first record in a first table must exist in the database before a second record in a second table may be inserted in the database as claimed in the present application. In addition to the fact that Weissman does not teach or suggest the claimed limitation, Veronese does not cure the deficiency of Weissman. In fact, Veronese discloses a method and system for specifying and implementing complex business applications to be integrated within an e-business environment that in no way teaches or suggests the claim limitation at issue. Because the cited combination of references does not teach or suggest each and every

element and limitation of Applicants' claims, the combination of Weissman and Veronese cannot be used to establish a prima facie case of obviousness against Applicants' claims within the meaning of 35 U.S.C. § 103. The rejections under 35 U.S.C. § 103 should therefore be withdrawn.

**The Office Action Does Not Examine
Applicants' Claims Pursuant To *Graham***

In addition to the fact that the Office Action has not established a prima facie of obviousness there is another reason that the rejection of claim 1 should be withdrawn: The Office Action does not examine Applicants' claims in light of the factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966). The question of whether Applicants' claims are obvious or not is examined in light of: (1) the scope and content of the prior art; (2) the differences between the claimed invention and the prior art; (3) the level of ordinary skill in the art; and (4) any relevant secondary considerations, including commercial success, long felt but unsolved needs, and failure of others. *KSR Int'l Co. v. Teleflex Inc.*, No. 04-1350, slip op. at 2 (U.S. April 30, 2007); *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966). "To facilitate review, this analysis should be made explicit." *KSR*, slip op. at 14 (citing *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006)). That is, the Office Action must make explicit an analysis of the factual inquiries set forth in *Graham*. In present case, however, the Office Action does not even mention the factual inquiries set forth in *Graham*. As such, the rejections of Applicants' claims under 35 U.S.C. § 103 are improper and should be withdrawn.

Relations Among Claims

Independent claim 1 claims method aspects for populating a database according to embodiments of the present invention. Independent claims 7 and 13 respectively claim system and computer program product aspects for populating a database according to embodiments of the present invention. Claim 1 is allowable for the reasons set forth above. Claims 7 and 13 are allowable because claim 1 is allowable. The rejections of claims 7 and 13 therefore should be withdrawn, and claims 7 and 13 should be allowed.

Claims 3-5, 9-11, and 15-17 depend respectively from independent claims 1, 7, and 13. Each dependent claim includes all of the limitations of the independent claim from which it depends. Because the combination of Weissman and Veronese does not teach or suggest each and every element of the independent claims, the combination of Weissman and Veronese also does not teach or suggest each and every element of the dependent claims of the present application. As such, claims 3-5, 9-11, and 15-17 are also patentable and should be allowed.

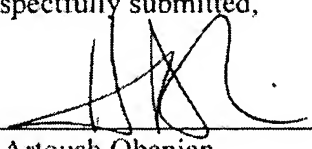
Conclusion

Claim 1 stands rejected for obviousness-type double patenting over claim 1 of U.S. Patent Application No. 10/981,298. Because Applicants' have filed a terminal disclaimer with respect to U.S. Patent Application No. 10/981,298, Applicants' respectfully request that the rejection be withdrawn and the claim be allowed.

The Commissioner is hereby authorized to charge or credit Deposit Account No. 09-0447 for any fees required or overpaid.

Respectfully submitted,

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